REMARKS

Claims 1-7 were examined. No action was taken on original claims 8-9, and it is possible that these claims were inadvertently not examined. Claims 1-7 were rejected under 35 USC §101. The specification was objected to because the abstract of the disclosure contains the word "invention". Re-examination and reconsideration of the claims, as amended, is respectfully requested.

1: Specification objections (office action paragraphs 2 and 4): Amendments to the specification are given at the end of this response.

2: Rejections under 35 USC §101

Rejected claims 1-3 are based upon rejected independent claim 1. Rejected claims 4-6 are based upon rejected independent claim 4. Rejected claim 7 and the possibly not examined claims 8-9 are based upon rejected independent claim 7. Independent claims 1 and 4 were rejected under 35 USC §101 as being double patenting of the same invention as that of claim 1 of prior U.S. patent 6,658,325 B2. Independent claim 7 was rejected under 35 USC §101 as being double patenting of the same invention as that of claim 1 and 4 of prior U.S. patent 6,658,325 B2.

Before proceeding with a detailed response to these 35 USC §101 rejections, a discussion of the MPEP criteria used to test for the presence or absence of double patenting is in order. These criteria are shown below:

804 Definition of Double Patenting [R-3] II. REQUIREMENTS OF A DOUBLE PATENTING REJECTION (INCLUDING PROVISIONAL REJECTIONS) A. Statutory Double Patenting - 35 U.S.C. 101

In determining whether a statutory basis for a double patenting rejection exists, the question to be asked is: Is the same invention being claimed twice? 35 U.S.C. 101

prevents two patents from issuing on the same invention. "Same invention" means identical subject matter. Miller v. Eagle Mfg. Co., 151 U.S. 186 (1984); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Ockert, 245 F.2d 467, 114 USPQ 330 (CCPA 1957).

A reliable test for double patenting under 35 U.S.C. 101 is whether a claim in the application could be literally infringed without literally infringing a corresponding claim in the patent. In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970). Is there an embodiment of the invention that falls within the scope of one claim, but not the other? If there is such an embodiment, then identical subject matter is not defined by both claims and statutory double patenting would not exist. For example, the invention defined by a claim reciting a compound having a "halogen" substituent is not identical to or substantively the same as a claim reciting the same compound except having a "chlorine" substituent in place of the halogen because "halogen" is broader than "chlorine."

The rejection of claims 1 and 4 under 35 USC §101 is respectfully traversed in part and overcome in part. To overcome this rejection, claim 1 has been amended to more specifically teach that the external devices are digital radio controlled devices, and that the radio link between the robot and the external device is a direct bi-directional, short-range, digital radio link.

To traverse this rejection, applicant respectfully submits that claim 1 of the current disclosure, as amended, and claim 1 of U.S. patent 6,658,325, teach different inventions in that "*a claim in the application could be literally infringed without literally infringing a corresponding claim in the patent.*"

Claim 1 of U.S. patent 6,658,325 teaches:

1. A mobile robot with an onboard web server, telecommunications means to link the onboard web server with the internet, and onboard telecommunications means to

establish additional short-range bi-directional digital radio links with a plurality of non internet connected external computer controlled devices;
wherein the mobile robot, under control by commands sent over the internet, travels into the vicinity of one or more of the external computer controlled devices and establishes a direct bi-directional, short-range, digital radio link with the external device.

A number of alternate configurations fail to infringe upon claim 1 of 6,658,325; but would infringe upon claim 1 (as amended) of the present disclosure. These include:

1: External radio controlled devices that maintain a secondary link to the Internet, where this secondary Internet link does not relay control signals to and from the robot. A specific example of such an external device would be an Internet media player with a Bluetooth remote control. This Internet media player connects to the Internet for purposes of downloading programs from Internet radio or video web broadcasting sites, but otherwise does not take any other control signals from the Internet. This Internet media player is controlled (turned on, off, channel selection, volume) by receiving short-range digital radio signals from a Bluetooth equipped remote control.

An Internet controlled mobile robot that travels into contact with the Internet media player, and attempts to adjust the volume or channel of this Internet media player by directly sending Bluetooth signals to the Internet media player, would fall outside of claim 1 of 6,658,325. This is because the Internet media player is Internet connected, and thus is not a "*non internet connected external computer controlled device.*"

This device would fall inside of claim 1 of the present disclosure, however, because the robot is "directly" controlling the Internet media player device by the Bluetooth bi-directional, short-range, digital radio link. Here the term "direct" is incorporated into the present disclosure's amended claim 1, (and also previously incorporated into claim 1 of 6,658,325 by amendment) and is used in the most common standard adjective sense, defined in the American Heritage online dictionary as: *"Proceeding without interruption in a straight course or line; not deviating or swerving: a direct route."*

Since there is clearly an embodiment of the claim that falls within the subject matter of one claim but not the other, applicant respectfully traverses the rejection under 35 USC §101 on grounds that identical subject matter is not defined by both claims, and statutory double patenting does not exist.

The claim 1 amendment to replace the structural limitation "computer controlled devices" with the functional limitation "digital radio controlled devices" has been entered as a second avenue to overcome the 35 USC §101 rejection of claim 1.

Functional limitations are permissible according to MPEP 2173.05(g):

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. In re Swinehart, 439 F.2d 210, 169 USPQ 226 (CCPA 1971).

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step...

It was held that the limitation used to define a radical on a chemical compound as "incapable of forming a dye with said oxidizing developing agent" although functional, was perfectly acceptable because it set definite boundaries on the patent protection sought. In re Barr, 444 F.2d 588, 170 USPQ 33 (CCPA 1971).

The term "SBDRL devices" (SBDRL was defined as "Short-range Bi-directional Digital Radio Link) is supported throughout the text of the present specification. Although the applicant would have no objection to using the full term "short-range bi-directional

digital radio link controlled devices" as the language for the functional limitation, the shorter term "digital radio controlled devices" appears to be preferable as the "short-range bi-directional digital radio link" limitation of the digital radio control is discussed in other claim limitations, and repetition is unnecessary and diminishes readability.

This amendment has the second compelling advantage of eliminating possible confusion or ambiguity as to exactly what sort of digital circuit falls under the scope of Claim 1. For example, consider a microprocessor control circuit. Such a circuit would clearly be considered a "computer" under claim 1 of 6,658,325, but start mentally subtracting components from this microprocessor circuit. At what point is this control circuit no longer considered a computer? In some cases, reasonable individuals may come to different conclusions.

By contrast, recasting claim 1 with the functional limitation ""digital radio controlled devices" removes any ambiguity about the details of the specific digital circuit design in the external device. As long as the external device is capable of being controlled by a direct bi-directional, short-range, digital radio link, it would fall within the limitations of claim 1 of the present disclosure.

The rejection of claim 4 and 7 under 35 USC §101 also respectfully traversed in part and overcome in part. To overcome this rejection, claims 4 and 7 have also been amended to replace the earlier "computer" limitation with a functional limitation, and more specifically teach that the external devices are digital radio controlled devices.

To traverse the 35 USC §101 rejections of claim 4 and 7, applicant respectfully submits that claim 4 and 7 of the current disclosure, as amended, and claim 1 of U.S. patent 6,658,325, also teach different inventions in that "*a claim in the application could be literally infringed without literally infringing a corresponding claim in the patent.*"

Here, consider the external digital radio controlled device discussed in page 15 paragraph 2 (as originally filed) of the present specification:

For other situations, such when the SBDRL is a relatively simple RFID tag, the signal from the robot to the tag may be used to power-up the tag, either through the energy from the robot's radio signal, or through a simple digital "1" sent from the robot to the SBDRL RFID tag. In either case, the robot's message to the SBDRL unit can be as simple as an "I am in close proximity, start transmitting", which is equivalent to a digital "1". By contrast, the lack of robot close proximity can be considered to be a digital "0".

Such a simple RFID tag would not need a complex control circuit, and could, in principle be controlled by a digital circuit that might not contain enough components to qualify as a "computer", yet still be quite capable of receiving a short range digital signal, processing the signal, and sending out a digital radio signal in reply. Such a device would be considered to infringe upon claim 4 of the present specification since the somewhat ambiguous "computer" limitation has been replaced by a clearer "digital radio controlled" functional limitation. However such a device, if lacking a conventional microprocessor, may not infringe upon claim 1 or claim 4 of patent 6,658,325.

Applicant respectfully traverses the double patenting rejection of claim 7 under 35 USC §101 in view of claim 4 of patent 6,658,325.

Claim 4 from 6,658,325 is:

4. The robot of claim 1, in which one or more of the external devices are selected from the group consisting of short-range bi-directional digital radio linked: video camera, audio pickup, environmental sensor, robotic arm, memory cache, automatic door, light, sprinkler, security system, audiovisual system, animal feeder, heating/air conditioning system, refrigerator, oven, dishwasher, washing machine, clothes dryer, health equipment, manufacturing equipment, or analytical equipment.

Claim 4 from patent 6,658,325 simply adds additional limitations to the various functions of the external devices. However if a simple digital circuit, rather than a computer or microprocessor controlled these external devices, they may not infringe upon claim 4 of

U.S. patent 6,658,325. By contrast they would still infringe upon claim 7 of the present specification because they are clearly digital radio controlled.

Dependent claims:

Applicant respectfully submits that independent claims 1, 4, and 7, as amended, teach an embodiment of the invention that does not fall within the scope of claims 1 and 4 of U.S. patent 6,658,325, and that statutory double patenting under 35 USC §101 does not exist. Thus the rejection of dependent claims 2, 3, 5, 6, (and if applicable, 8 and 9) as being dependent upon a rejected base claim is respectfully traversed.

Additionally, to further overcome 35 USC §101 rejections and to be parallel with the amended independent claims, dependent claims 2, 5, and 8 have also been amended to replace the structural limitation "computer" with the less ambiguous functional limitation "digital radio controlled". Also, the limitation "radio" has been added to claims 2, 5, and 8 to improve clarity and consistency with the independent claim language.

Specification amendments:

Please amend paragraph 1 of the specification to add the following text ", and now issued as US patent 6,658,325 B2" as shown below:

"This application claims the priority benefit of copendent patent application 10/047,574 "Mobile robotic with web server and digital radio links", filed January 14, 2002, and now issued as US patent 6,658,325 B2. Application 10/047,574 claimed benefit of provisional patent application 60/261,741 "Mobile robotic system with onboard internet web server, and short-range bi-directional digital radio links to external computerized devices", filed January 16, 2001."

Abstract amendments: Please amend the abstract of the specification to delete the following text "This invention is a" and add an upper case "A" as shown below:

"~~The invention is a~~ A computerized mobile robot with an onboard internet web server, and a capability of establishing a first connection to a remote web browser on the internet for robotic control purposes, and a capability of establishing a second short range bi-directional digital radio connection to one or more nearby computerized digital radio equipped devices external to the robot. The short-range bi-directional digital radio connection will typically have a maximum range of about 300 feet. In a preferred embodiment, this short-range wireless digital connection will use the 2.4 gHz band and digital protocols following the IEEE 802.11, 802.15, or other digital communications protocol. By employing the proper set of external short-range digital radio devices capable of interfacing with the robot (such as sensors, mechanical actuators, appliances, and the like), a remote user on the internet may direct the robot to move within range of the external devices, discover their functionality, and send and receive commands and data to the external devices through the CGI interface on the robot's onboard web server."

In view of the above amendments and accompanying remarks, applicant believes that the application is now in condition for allowance. Notice to that effect is respectfully requested.

If the examiner believes that a telephone conference would expedite prosecution of this application, please telephone the undersigned at (408) 348-1495.

Respectfully Submitted

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